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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/803,779	03/12/2001	Yumi Wakita	MTS-3236US	8894

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EXAMINER

LERNER, MARTIN

ART UNIT	PAPER NUMBER
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2654

DATE MAILED: 03/31/2004

14

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/803,779

Applicant(s)

WAKITA ET AL.

Examiner

Martin Lerner

Art Unit

2654

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 February 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 to 16 is/are pending in the application.
- 4a) Of the above claim(s) 14 to 16 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2, 3, 7, 8, 10, 12, and 13 is/are allowed.
- 6) ☒ Claim(s) 1, 4 to 6, 9, and 11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Election/Restrictions*

Applicants' election without traverse of Group I, Claims 1 to 13 in Paper No. 13 is acknowledged.

Claims 14 to 16 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 13.

### *Claim Objections*

Claims 11 to 13 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claims, or amend the claims to place the claims in proper dependent form, or rewrite the claims in independent form.

Claims 11 to 13 fail to further limit independent claims 4, 7, and 8, upon which they depend. Claims 11 to 13 repeat limitations already set forth within the independent claims. Claim 11 repeats the limitations of the associating means and the converting means of independent claim 4. Claim 12 repeats the limitations of the associating means and the converting means of independent claim 7. Claim 13 repeats the limitations of the associating means, by use of classing information, and converting means of independent claim 8. Applicants may simply rewrite claims 11 to 13 as

Art Unit: 2654

reciting "a program for causing a computer to function as all or part of the expression converting apparatus" of claims 4, 7, and 8, respectively.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter that the applicant regards as his invention.

Claims 5 and 9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 5 and 9 are indefinite, and correspondence to the Specification is unclear. It is not clear what embodiments are being referred to by claims 5 and 9. Presumably, removing a part of the selected expression refers to removing stop words. However, it is not clear what sort of key word is referred to "that does not coincide with the combined key word combination and not being included in the previously identified key word combination". Claims 5 and 9 contain negatives "not coincide" and "not being included", which are confusing. The Specification was reviewed, but does not utilize this terminology. Thus, the claims remain indefinite, and the correspondence to embodiments disclosed by Specification is unclear.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

Art Unit: 2654

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 1, 4, 6, and 11 are rejected under 35 U.S.C. 102(e) as being anticipated by *Masuichi et al.*

Regarding independent claims 1 and 4, *Masuichi et al.* discloses a cross-lingual retrieval method and system, comprising:

“associating means of, for each sentence in a corpus, selecting key words from the sentence, identifying a combination of key words that are in a co-occurrence relation from among a predetermined number of combinations of key words among the selected key words, and previously associating the identified key word combination and an expression into which the sentence from which the key words are selected is converted” – pair data storing unit 12 stores sentences (column 10, lines 45 to 56: Figure 2); content word storing unit 15 receives the result of the morphological analysis for all sentences stored, and extracts the content words (“for each sentence in the corpus, selecting key words from the sentence”) (except for the stop words) from the result of

Art Unit: 2654

the analysis (column 11, lines 6 to 12: Figure 2); mutual information (MI) between words, word1 and word2, defines the probability that both word1 and word2 are found in a document ("identifying a combination of key words that are in a co-occurrence relation from among a predetermined number of combinations of key words") (column 9, lines 6 to 41: Equation (4)); a similar English sentence retrieving unit 18 receives the retrieval expression generated by the language replacing unit 17 and retrieves multiple English sentences similar to the retrieval expression ("an expression into which the sentence from the key words is selected is converted") using English word information stored in the content word storing unit 15; for retrieving similar English sentences, extended mutual information is also used ("previously associating the identified key word combination") (column 11, lines 21 to 37: Figure 2);

"converting means of selecting predetermined key words from an input sentence, combining the selected key words, comparing the key word combinations and the previously identified key word combination of each sentence, selecting one or more than one sentences that coincide or have a high degree of similarity as a result of the comparison, and outputting expressions into which the sentences are converted" – similar sentence retrieval is performed, after extracting content words ("selecting predetermined key words from a sentence") from the query written in a first language, by (1) selecting first language sentences having a similarity higher than a predetermined threshold among similar first language sentences, or (2) selecting first language sentences having a value of sum of extended mutual information ("combinations of key words") larger than a predetermined threshold from among similar first language

Art Unit: 2654

sentences (column 7, lines 15 to 27); the sentences are output in descending order of sum of values of  $MI'(S, w_i)$  as a result of the similar sentence retrieval on the query S (column 10, lines 3 to 21: Step [S04]) ("selecting one or more than one sentences that coincide or have a high degree of similarity, and outputting expressions into which the sentences are converted");

"the predetermined key words of each sentence in the corpus are stored" – content word storing unit 15 extracts the content words ("key words") (except for stop words) and stores the content words (column 11, lines 6 to 12: Figure 2);

"from the stored predetermined key words of each sentence in the corpus, predetermined combinations of key words are selected as having a dependency relationship and stored" – pair data storing unit 12 stores multiple pairs of a Japanese sentence and an English sentence having the same meaning for identifying it; an identifier (pair data identifier) is assigned to each pair data (column 10, lines 45 to 56: Figure 2); pair data define "a dependency relationship" between sentences ("combinations of key words");

"the predetermined combinations of key words are individually selected for each sentence from the stored predetermined key word of the sentence" – morphological analysis is applied to the set of sentences obtained by the retrieval, and thereby all content words contained in the set of sentences are extracted ("keywords are individually selected for each sentence"); the extended mutual information between the query S and each content word in the set of content words is obtained ("combinations of

Art Unit: 2654

key words are individually selected for each sentence") (column 10, lines 3 to 23: Steps [S01] and [S02]).

Regarding claim 6, *Masuichi et al.* discloses that the retrieval expression generating unit 14 extracts the content words except for the stop words from the words obtained from morphological analysis (column 11, line 66 to column 12, line 3: Step S3); after the stop words are removed, the only remaining words are "key words or words equivalent to the key words".

Regarding claim 11, the claim merely repeats the first two clauses of independent claim 4; *Masuichi et al.* describes program instructions for an algorithm performing cross-lingual retrieval to process queries.

#### ***Allowable Subject Matter***

Claims 2, 3, 7, 8, 10, 12, and 13 are allowed.

#### ***Response to Arguments***

Applicants' arguments filed 12 November 2003 have been considered but are moot in view of the new grounds of rejection, necessitated by amendment.

#### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to Applicants' disclosure.



Berry et al., Wong et al., Ho et al., Snow et al., and Sullivan et al. disclose related art.

Applicants' amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Martin Lerner whose telephone number is (703) 308-9064. The examiner can normally be reached on 8:30 AM to 6:00 PM Monday to Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil can be reached on (703) 305-9645. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2654

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



ML  
3/25/04



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